

# FOOD SAFETY



BULLETIN 2017 ISSUE 6

**BE FOOD SAFE!**  
A publication for food  
retail establishments

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# OPENING MESSAGE

*“... food safety is a shared responsibility. There is no question about it. But when it comes to creating, strengthening, or sustaining a culture within an organization, there is one group of individuals who really own it - they're the leaders.”*

– Frank Yiannas, author of ‘Food Safety Culture: Creating a Behavior-Based Food Safety Management System.’

In issue 5, we shared why a good food safety culture is good for business, and how businesses can benefit from it. In this issue we will explore possible ways to implement and cultivate a food safety culture in your business.

With the growing popularity of vending machines, we have collaborated with SPRING Singapore to share about food vending machine business format. This includes a set of practices that operators could refer to, and on licensing of such machines.

We will also be looking closely at *Bacillus cereus*, a food poisoning pathogen that is commonly associated in starchy food such as rice, and share about the consequence of *B. cereus* contamination. Also, we will examine a food poisoning case that affected 230 individuals at 12 different events. Finally, we will be sharing tips on how to safely prepare one of Singapore’s popular dishes, the well-loved chicken rice.

Once again, thank you for your readership, and happy reading!



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# Be Serious about *B. cereus*!

Though *Bacillus cereus* (*B. cereus*) generally causes mild and self-limiting food poisoning symptoms, it can sometimes result in serious complications. In this issue, we'll find out more about food poisoning caused by *B. cereus* and learn some useful tips to protect your customers from *B. cereus* food poisoning.

*B. cereus* is found in soil and can be present in a wide range of foods. It is known to cause **two types** of food poisoning

1

## Vomiting-type food poisoning

is caused by the ingestion of toxins formed by *B. cereus* in food, and is usually linked to the consumption of contaminated starchy food such as cooked rice, noodles or pasta. Symptoms of nausea and vomiting appear within 30 minutes to 6 hours from ingestion.



2

## Diarrhoeal-type food poisoning

is caused by consuming food contaminated with large amounts of *B. cereus*, and has been associated with the consumption of contaminated meat, milk, vegetable and fish. Symptoms of watery diarrhoea (without vomiting) normally appear within 6 to 15 hours from ingestion.



*Symptoms of both types of B. cereus food poisoning generally last about a day.*

## PREVENTION!

Although cooking can kill the cells of *B. cereus*, their spores and toxins may survive the cooking process. If exposed to prolonged cooling and holding of food at room temperature, the spores may form new cells, which can then multiply in numbers and produce toxins. Once food is contaminated with *B. cereus* toxins, reheating will not make the food safer, as the toxins cannot be destroyed by heat.

In short, if food has been contaminated with *B. cereus* and is not kept properly for a prolonged period of time, further cooking or reheating would not be able to reduce the risk of food poisoning. Therefore, it is important to practice the following food hygiene tips to prevent *B. cereus* from multiplying, and to reduce the risk of them producing toxins in food.

- Plan your cooking schedule well, and do not cook too early in advance. Also, plan your quantities well and cook food in batches when necessary.
- Keep ready-to-eat food out of the Temperature Danger Zone (below 5°C or above 60°C).
- Avoid holding ready-to-eat food for prolonged periods of time and keeping any leftovers.
- Keep your food covered to reduce the risk of contamination.



# RISK INSIGHT

Hailed as one of Singapore's signature dishes, the popular and well-loved Chicken Rice is a "must-try" among tourists and a favourite among Singaporeans.

Available in several versions, this delectable combination of seasoned meat with flavourful rice is found islandwide, from food stalls and hawker centres to food courts and even restaurants.

Mouthwatering as the dish may sound, if good hygiene practices are not observed, a delicious meal could become unsafe to eat. Consisting of high-risk ingredients like chicken and raw cucumbers, poor handling and hygiene practices could lead to bacterial growth and cause the dish to be unsafe to eat.

In this issue, we share some hygiene practices for preparing chicken rice.

## TIPS ON PREPARING CHICKEN RICE HYGIENICALLY



### TEMPERATURE CONTROL

- Cook chickens thoroughly to an internal temperature of at least 75°C. You can measure the internal temperature of meat with a probe thermometer.
- Undercooked food have a risk of bacterial presence, and subsequently, food poisoning.
- Do not store and display food in the temperature danger zone (5°C to 60°C) for more than 4 hours.
- Plan your quantities and your cooking processes to have your food ready in batches instead.



### CLEAN CHOPPING BOARDS FREQUENTLY

- Plastic board: Scrub with a scouring pad and detergent, and then rinse with clean water.
- Wooden board: Wash with detergent and water as described as above. If washing is not feasible, scrape the top surface with a clean knife and wipe with a dry and clean cloth.



### PREVENT CROSS-CONTAMINATION

- Before wearing gloves, wash your hands thoroughly with soap and water.
- Do not use gloves when handling money and other tasks other than food preparation.
- Change gloves frequently and as soon as they become dirty or torn.



### WASH CUCUMBERS AND GARNISHES THOROUGHLY

- Wash and peel cucumbers, and wash them again after peeling.
- Wash garnishes thoroughly by soaking them in clean water for 15 minutes and rinsing them with water to remove any dirt, bacteria or chemical residues.
- Prepare cucumbers and garnishes in batches and store them in the refrigerator.





# FOOD POISONING

## CASE STUDY

Over a festive period, more than 230 individuals at 12 different events who consumed food from the same caterer had come down with food poisoning symptoms, including diarrhoea, fever and nausea. The affected individuals were aged between one and 85 years old. To protect consumers from public health risks, the food establishment was temporarily suspended. The caterer eventually decided to cease their business and cancel licence.

Investigations showed that the outbreak was caused by the bacteria *Salmonella Enteritidis*, a food-borne pathogen commonly associated with raw poultry. Stool samples from 11 individuals and four food handlers tested positive for the pathogen. This pathogen was most likely introduced into the ready-to-eat food due to poor food hygiene practices.

### LEARNING POINTS from this incident



#### FINDING 1:

Expired food ingredients found in storage area.



#### FINDING 2:

Serving trays used to put raw poultry were washed at the thawing sink and reused for ready-to-eat food.



#### FINDING 3:

Raw poultry was kept for more than 10 days with at least 2 freeze-thaw cycles.

#### ISSUE:

Did not check 'use by' dates and lack of controls to ensure use of products based on the order of expiry dates.

#### LEARNING POINTS:

Ensure that no expired food items are used to ensure that the food is safe for consumption. Practice FEFO (First Expired, First Out), order food supplies only when needed, check delivery of goods to ensure that food/ingredients are in good condition and not expired.

#### ISSUE:

There is a high risk of cross-contamination using the same utensils during food preparation.

#### LEARNING POINTS:

Ensure proper workflow to prevent any risk of cross contamination, including segregation of raw and ready-to-eat food.

#### ISSUE:

When frozen food is thawed, its core temperature rises and bacteria may start to be active again and multiply to harmful levels.

#### LEARNING POINTS:

Use a safe thawing method and cook thawed food thoroughly. Plan ahead to allocate and thaw sufficient quantities of food. Cook thawed meat right away and do not refreeze thawed food.



# WAYS TO CULTIVATE A FOOD SAFETY CULTURE

Food safety culture is a critical aspect of the food industry. In the previous issue, we looked at the importance of a food safety culture and why it is good for businesses. In this issue, we will explore ways to implement and cultivate a food safety culture in your business.



*The content discussed in this article is adapted from journal articles published by British Food Journal and Food Protections Trends. These articles provide assessment of food safety culture, and look at motivational factors that influence performance of safe food behaviours.*



## Step 1

## SET EXPECTATIONS

- **Set clear rules and expectations** on food safety practices, and explain this to all food handlers/employees.
- **Do this regularly**, especially for new food handlers/employees to ensure consistency in meeting the required food safety standards. Employees have to know that poor standards in food safety and hygiene is highly undesirable.
- **Work closely with your food safety champion or Food Hygiene Officers (FHOs)** to develop an in-house system to conduct daily food hygiene and safety inspections. **They can assist to ensure food safety standards and compliance** on personal hygiene, premises cleanliness and safe handling of food.

## Step 2

## EDUCATION &amp; TRAINING

- **Develop an in-house training and skill guide** on good food hygiene and safety practices, as well as conduct a monthly review of all your food handlers/employees' food safety behaviour with the assistance of your food safety champion/FHOs.
- **Work with your food safety champion/FHOs to supervise and educate** on areas of improvement in food safety practices. FHOs, can also assist in creating in-house training that is specific to the operations of your food establishment.
- **Explain the purpose** of each food safety rule to employees during training to aid understanding and easy recall.
- **It is important to develop food handlers/employees' skills and knowledge**, and advise them on areas they can improve. Learning various food safety challenges, why we implement systems and conduct checks, is key to ensuring high standard of hygiene.

## Step 3

## EFFECTIVE COMMUNICATION

- **Listen to feedback** from your food handlers/employees, and learn about the challenges of the workplace. Effective communication occurs when everyone is able to share and learn from one another. **Learning as a team** encourages mutual understanding and cultivate good food safety behaviour.
- **Share best practices**, near-misses and learning points with everyone to instil the message that food hygiene is as important as the business. **Do this frequently** to be effective, e.g. weekly, and as part of your regular operational meetings.

STEPS  
TO TAKE

## Step 4

## MEASURE PROGRESS

- **Check on the progress and improvements** of food safety behaviour and habits shown by your food handlers/employees. **Observe** whether they are committed to food safety and if they are encouraging others around them.
- **Take into account customers' feedback** on food safety issues. Train your employees on receiving and handling such feedback.

## Step 5

## REINFORCE &amp; REWARDS

- **Regular encouragement brings about positive reinforcement** in the work place. It also acts as a good reminder on the importance of food safety and to discourage poor hygiene practices, especially in cases when expected standards are not met.
- **Commend and recognise employees**, who are diligent in practising good food safety habits.
- Use them as role models in the workplace to promote high standards of food safety.
- **Encouragement and positive feedback**, should be given to employees who do the right things to boost good food safety practices.



## FOOD HYGIENE UPDATES

# FOOD VENDING MACHINES

With contribution from SPRING Singapore

*“Guidelines like TR 57 will give Singapore companies the confidence to innovate new products and services, and also protect consumers by ensuring the food safety of these products dispensed by machines. In support of industry transformation, we encourage more industry players to work with SPRING to develop and use Quality and Standards to enable the continued success of Singapore enterprises in the future economy,”*

– Ms Choy Sauw Kook, Assistant Chief Executive, Quality and Excellence, SPRING Singapore.

Extracted from 'Launch of Food Safety Guidelines to Support Wider Adoption of Food Vending Machines and Ready Meals Formats' – Media Release



**Catching on to the trend of Japan's thriving vending machine industry**, a new retailing format has emerged in Singapore's food and beverage (F&B) sector. Food vending machine is gaining prominence in Singapore, offering ready-to-eat meals to meet consumer demands while optimising manpower and resources.

Advances in food technologies have spurred the development of a diverse range of food products – from local favourites like Hor Fun, to western staples like spaghetti – that can be distributed via vending machines and present fresh growth opportunities for food businesses.



For more information about TR57

Food companies interested in the use of food vending machines now have a set of industry practices they can refer to when planning for and operating vending machines. The new technical reference (TR), known as **TR 57: Guidelines on Food Safety and Good Hygiene Practices for the Vending Industry**, covers areas

such as design and structure, cleanliness and maintenance of vending machines, food hygiene, food transportation and the site where the machines are placed. It is a proactive measure by the government and industry to catalyse the adoption of food vending machines, as an innovative manpower-lean format, in line with the Food Services Industry Transformation Map.

**But where and how do you start your food vending machine business?** To ensure food hygiene of food vending machine operations and increase consumers' confidence, with effect from 1 December 2016, operators of vending machines with temperature control requirement and/or in-machine food preparation would need to obtain a licence from National Environment Agency (NEA). A single licence will be issued to the food vending machine operator to operate multiple vending machines.



### LICENSING REQUIREMENTS

- The requirement covers areas such as design and structure, cleanliness and maintenance, food hygiene, food transportation and, site where the machines are places.
- All food on sale in vending machines must be obtained from licensed/approved source(s), i.e. AVA licensed central kitchens, AVA approved imported food and/or NEA licensed food catering operations.
- Operators must notify NEA of all food vending machines locations, as well as each new location where additional machines will be placed, prior to operation.



For more information on the licensing requirements and application process.